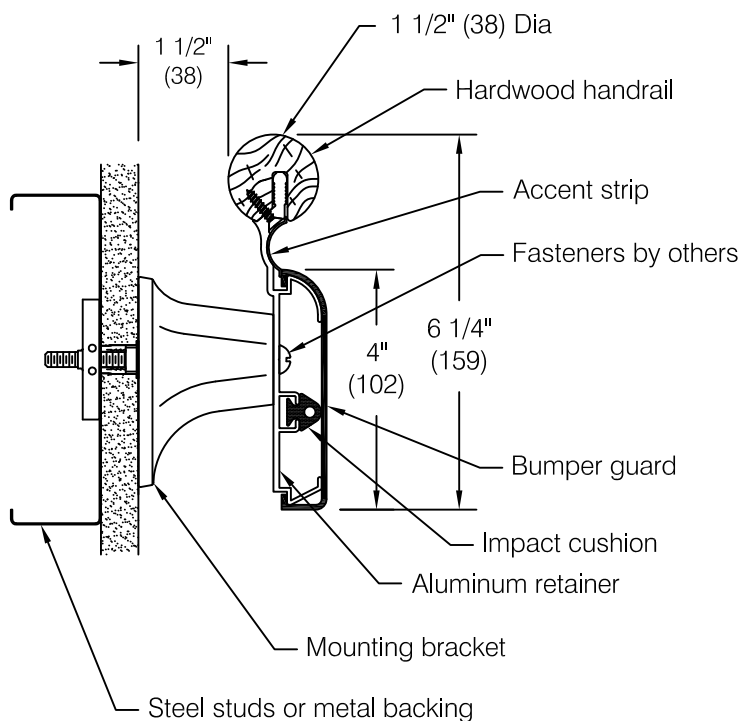
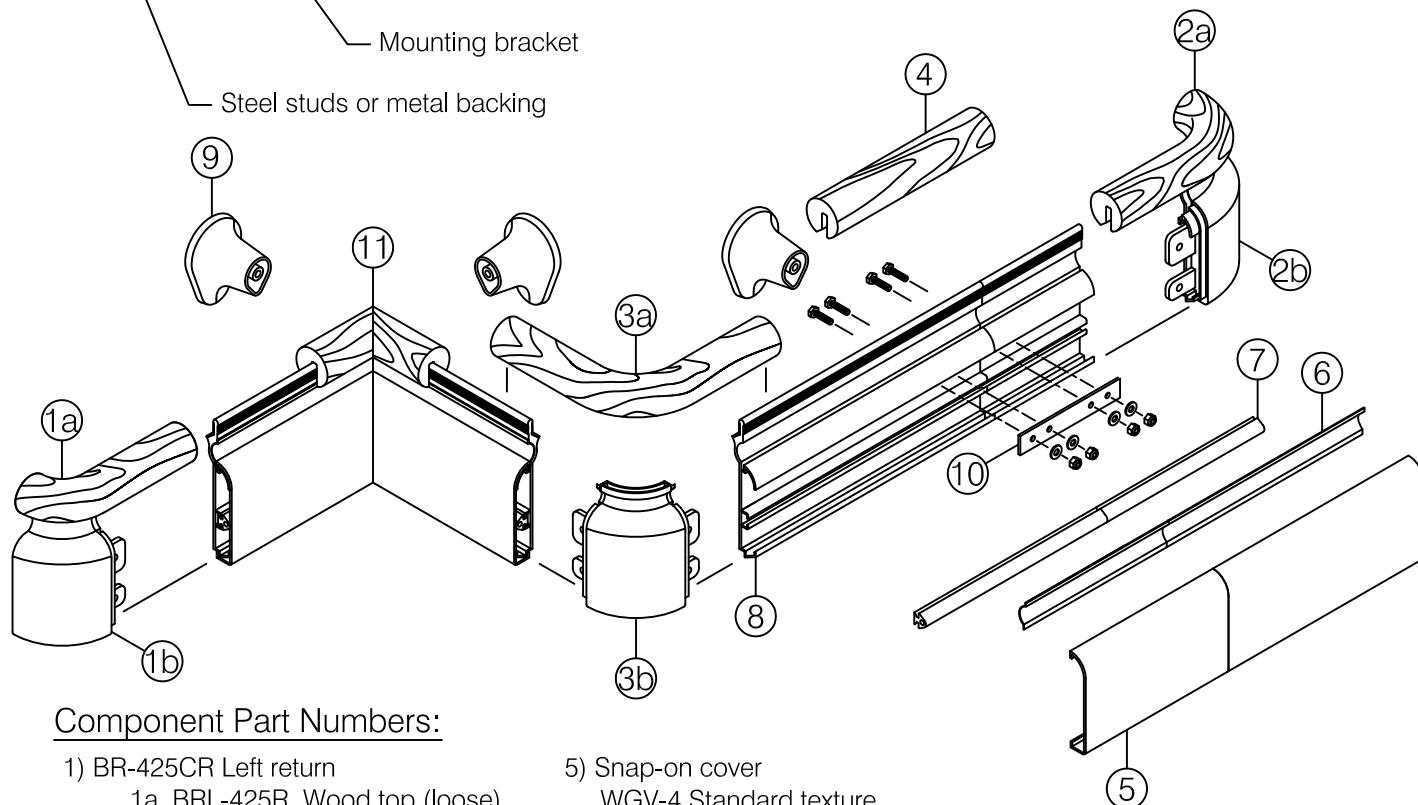


BR-400CR Series Handrails



This installation instruction
is applicable to:

BR-400CR
BR-400CRG

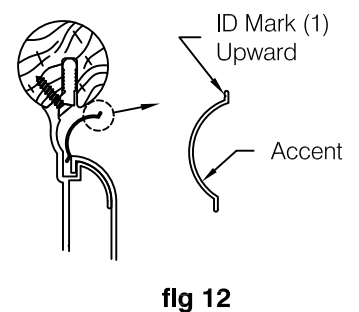
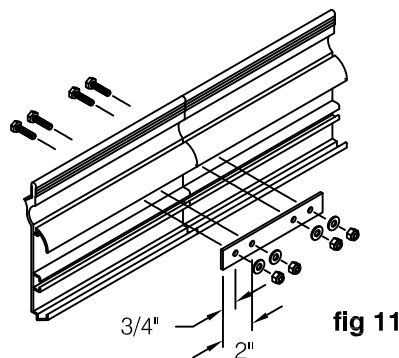
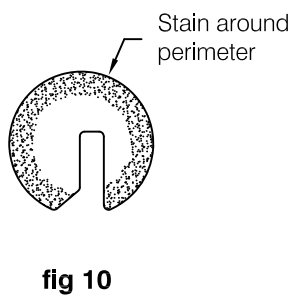
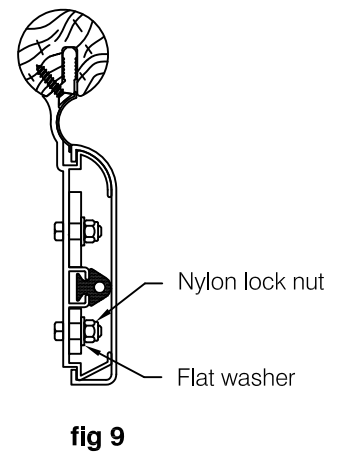
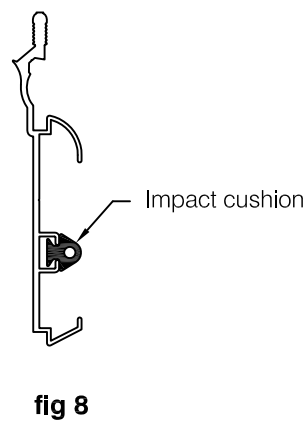
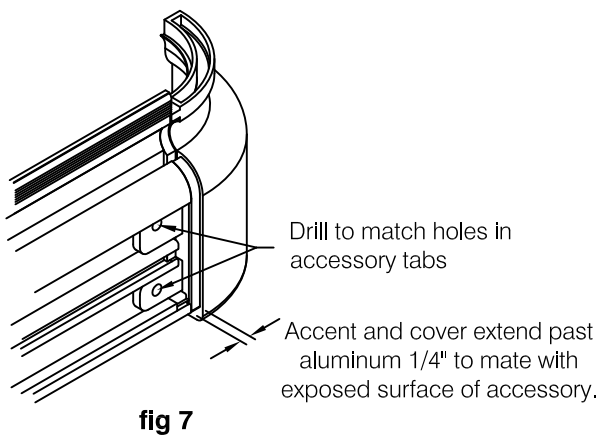
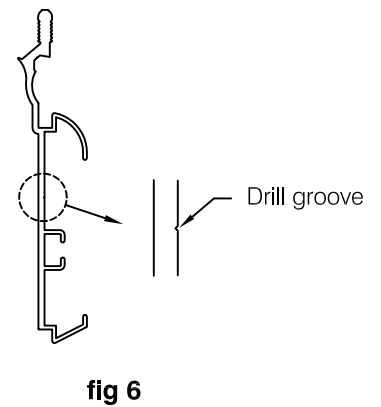
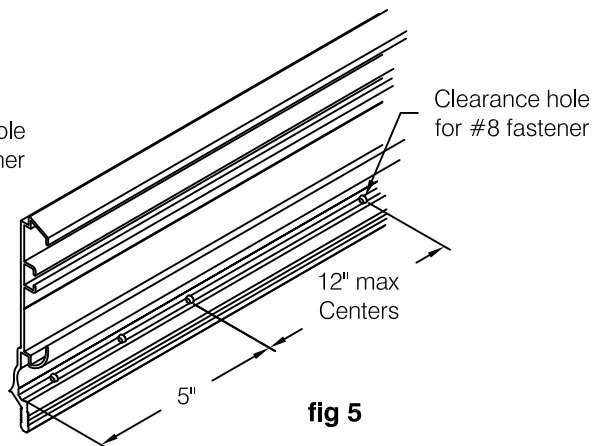
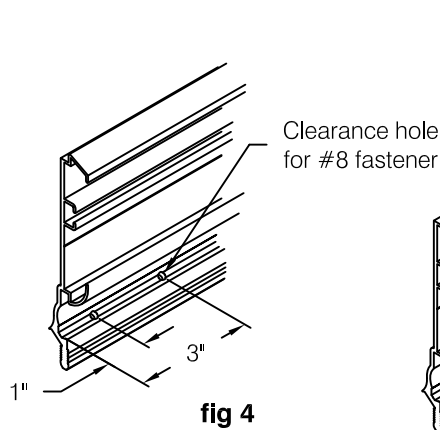
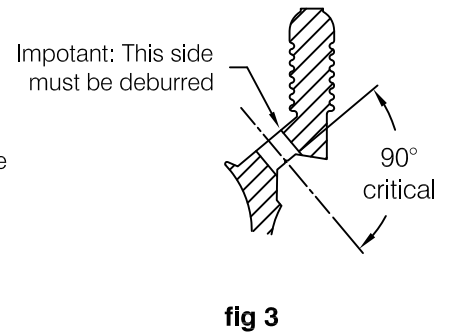
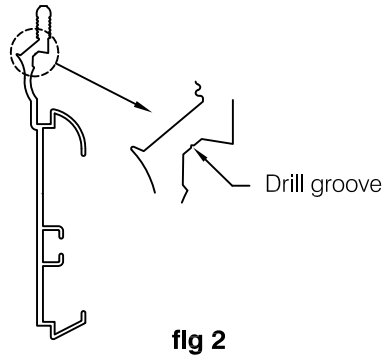
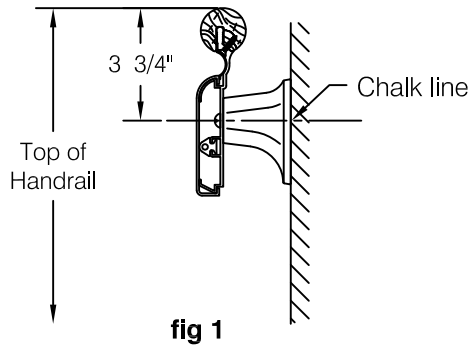


Component Part Numbers:

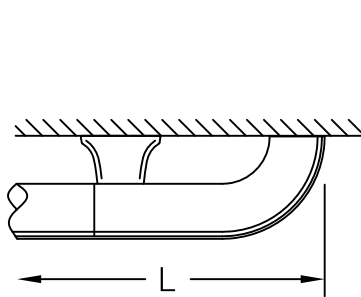
- | | |
|-------------------------------|--------------------------------|
| 1) BR-425CR Left return | 5) Snap-on cover |
| 1a. BRL-425R Wood top (loose) | WGV-4 Standard texture |
| 1b. Base and accent assembly | WGVG-4 Grooved and textured |
| 2) BRR-425CR Right return | 6) BRI-400R Colored accent |
| 2a. BRR-425R Wood top (loose) | 7) B-100 Impact cushion |
| 2b. Base and accent assembly | 8) BRA-400CR Aluminum retainer |
| 3) OBR-450CR Outside corner | 9) BR-108 Bracket |
| 3a. IOC-425R Wood top (loose) | 10) SPL-400 Splice |
| 3b. Base and accent assembly | 11) Field miter inside corner |
| 4) BRW-400R Wood handrail | |

BR-400CR Series Handrail Installation Instructions

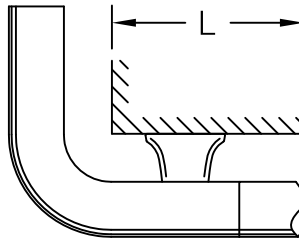
- Step 1:** Determine top of handrail height and snap a chalk line 3 3/4" below for centerline of mounting hardware, see **fig 1**.
- Important:** Store material in a clean dry place where the temperature is maintained between 50°F (10°C) and 100°F (38°C). Walls and rooms should be maintained at a minimum of 65°F (18°C) for at least 48 hours prior to installation. Acclimate materials to normal building conditions for at least 24 hours before cutting and installing.
- Step 2:** Cut aluminum retainer. See **Cutting Adjustment Diagrams and Schedule** for adjustments to aluminum retainer length at wall returns, outside corners, and inside miter corners. Refer to **Minimum Layout Configurations** for additional information.
- Important:** All cuts must be square and deburred.
- Step 3:** Drill aluminum for attachment of wood handrail and wood accessory tops. Use groove in retainer to locate centerline for drilling, see **fig 2**. Drilling must be perpendicular to aluminum as shown in **fig 3**. Use a #16 (.1770) drill bit to provide clearance for a #8 fastener.
- Mounting holes must be spaced:**
- At 1" and 3" from end of retainer for wall return and outside corner tops, see **fig 4**.
 - At 5" from end of retainer then not to exceed 12" on center for wood handrail at ends adjoining wall returns and outside corners, see **fig 5**.
 - At 1" in then not to exceed 12" on center from butt joint in wood handrail, see **step 12**.
- Important:** Deburr all holes as noted in **fig 3** to prevent interference with wood handrail and accessory tops.
- Step 4:** Mark and drill aluminum retainer for wall mount brackets. Use groove in retainer to locate centerline for drilling, see **fig 6**.
- Bracket mounting holes must be spaced:**
- Not to exceed 32" on center.
 - 3 1/2" to 6" from end of aluminum retainer at returns and outside corner accessories.
 - A minimum of 4" from end of retainer at splices to avoid interference with hardware shown in **fig 11**.
 - To align with horizontal metal backer plate or metal studs (by others).
- Step 5:** Locate and drill holes for bracket mounting in wall construction using the aluminum retainer as a template or by careful measurement. Choice of hardware will dictate hole diameter.
- Step 6:** Insert molded accessories into end of retainer, press firmly to ensure molded part is seated squarely against the end of the retainer. Drill accessory mounting holes through aluminum using the accessory as a template, see **fig 7**.
- Step 7:** Cut flexible impact cushion to length slightly shorter than the aluminum and slide into retainer, refer to **fig 8**.
- Step 8:** Attach molded returns and one side of outside corners to retainer with accessory seated firmly and squarely while tightening. Fasten with 1/4" bolt, flat washer and nylon locknut provided.
Caution: Do not use a lock washer, use flat washers only. Always place a flat washer between nut and molded tab. Tighten to 10 ft-lbs maximum torque, see **fig 9**.
- Step 9:** Mount assembly to wall with the appropriate hardware according to wall construction. See **step 10** for splicing information. Work up to and around outside corners from one side so aluminum may be slid into unattached side of outside corner.
- Suggested hardware:**
- Drywall: Toggler® brand toggle bolts
 - Masonry: Plastic Alligator® insert
- Step 10:** Refer to **fig 11** for splicing of aluminum retainer as required on longer handrail lengths. Locate splice joints a minimum of 4" from bracket locations. Match drill through splice and retainer in 4 places using a 5/16" drill bit to provide clearance for 1/4" diameter hardware. Offset butt joints in wood handrail, bumper guard cover, and accent from joints in aluminum retainer.
- Step 11:** Install wall return and outside corner wood tops. Use care to position wood top level on aluminum retainer. Secure in place using #8 self-drilling screws (provided) through holes drilled in **step 3**.
- Important:** The angle at which the screws are installed is critical, see **fig 3**. Proper installation will prevent screws from protruding through wood and will secure parts in their intended orientation. For best results drill a 1/8" diameter pilot hole for installation of the #8 fasteners.
- Step 12:** Measure between accessory tops (corners and returns) and mitered corners. Cut wood handrail accordingly. Care should be taken to select the straightest lengths of wood for the longest handrail spans. Select wood of similar grain and color to best match accessories and when joining sections end to end.
- Important:** All cuts must be square and deburred. Use 120 grit sand paper on wood being careful not to damage the finish. To properly secure ends of rail, mounting holes must be provided 1" in from butt joint in wood handrail, see **step 3**. Offset butt joints in handrail from butt joints in aluminum retainer.
- Step 13:** Color the perimeter of all unfinished ends of the handrail using a stain pen or touch-up stain, see **fig 10**.
- Step 14:** Install wood handrail using mounting holes drilled in **step 3** and **step 12**. Use care to position wood top level on aluminum retainer and aligned with accessory tops. Secure in place using #8 self-drilling screws provided. See **step 11** for important installation information.
- Step 15:** Measure between molded connectors and cut bumper guard cover and accent strip. Cover and accent should extend 1/4" beyond ends of aluminum retainer to mate fully with the molded base and connector, see **fig 7**. Offset butt joints in bumper guard cover and accent from joints in aluminum retainer.
- Step 16:** Snap bumper guard cover in place on aluminum retainer. Place lower edge of accent strip in finger groove of rail, ID mark upward and snap into place under wood handrail, see **fig 12**.



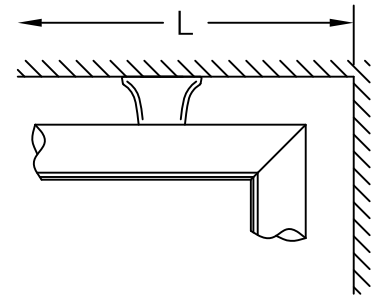
Cutting Adjustment Diagrams and Schedule



Return



Outside Corner



Inside Corner
Mitre

	Aluminum Retainer	Wood Base	Wood Handrail
Return	L - 3 3/16"	L - 7 3/16"	L - 7 3/16"
Outside Corner	L - 0"	L - 4"	L - 4"
Inside Corner	Miter	Miter	Miter

Important: Wood accessory tops and handrail to be installed before accent strip and bumper guard cover.

Minimum Layout Configurations

